

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A wellbore completion, comprising:

a first gravel pack section and a second gravel pack section, each gravel pack section being capable of production adapted to produce fluid therethrough and disposed within a well, the gravel pack sections capable of imposing a predetermined substantially radial flow restriction upon fluid production flowing substantially radially through the gravel pack section;

wherein the first gravel pack section imposes a substantially radial flow restriction that is different from the a substantially radial flow restriction imposed by the second gravel pack section.

Claim 2 (original): The wellbore completion of claim 1, wherein the gravel pack sections comprise graded gravel material having an effective permeability within a predetermined range when placed in the well.

Claim 3 (original): The wellbore completion of claim 1, wherein the gravel pack sections impose a greater pressure drop at a heel end of a horizontal wellbore and progressively less pressure drop at a toe end of the horizontal wellbore.

Claim 4 (original): The wellbore completion of claim 1, further comprising a sand screen having a plurality of flow restricting sections capable of imposing a predetermined flow restriction upon fluid production flowing substantially radially through the sand screen sections.

Claim 5 (original): The wellbore completion of claim 4, wherein each screen section comprises a flow restriction element capable of imposing a restriction on the communication of fluid flow, thereby regulating the pressure profile along the sand screen length.

Claim 6 (original): The apparatus of claim 5, wherein the flow restriction elements comprise one or more from the following group: sand packed sections within the screens, wire mesh within the screens, tortuous path elements within the screens and holes within a base pipe.

Claim 7 (original): The wellbore completion of claim 1, further comprising a packer assembly attached to the sand screen.

Claim 8 (original): The wellbore completion of claim 1, further comprising production tubing in communication with the sand screen.

Claim 9 (original): The wellbore completion of claim 1, wherein the gravel pack sections comprise a packing of gravel having a predetermined range of fluid flow conductivities.

Claim 10 (previously presented): An apparatus for completing a wellbore within a producing subterranean reservoir, comprising:

a production tubular having an interior, the production tubular comprising screen sections capable of communicating fluid from the reservoir to the interior of the production tubular;

wherein each screen section comprises a flow restriction element capable of imposing a known restriction on the communication of fluid flow, thereby regulating the pressure profile along the production tubular length;

wherein the restriction of at least one screen section is different from the restriction of at least one other screen section; and

wherein the flow restriction element is selected from the group comprising: sand packed sections within the screens, wire mesh packed sections within the screens and holes in a base pipe.

Claim 11 (original): The apparatus of claim 10, wherein the production tubular is located at least partially within a horizontal wellbore.

Claim 12 (original): The apparatus of claim 10, further comprising a gravel pack having a varying substantially radial flow restriction along its length.

Claim 13 (original): A wellbore completion, comprising:
a gravel pack creating a varying substantially radial flow restriction along its length.

Claim 14 (original): The wellbore completion of claim 13, further comprising:
at least one sand screen sections having flow restriction elements capable of imposing restriction on the communication of fluid through the sand screen sections.

Claim 15 (currently amended): A wellbore completion, comprising:

a first gravel pack section and a second gravel pack section, each gravel pack section being capable of production adapted to produce fluid therethrough and disposed within a well, the first gravel pack section having a different gravel density than the second gravel pack section; and

wherein at the first gravel pack section creates a substantially radial flow restriction upon fluid production that is different from the substantially radial flow restriction upon fluid production of the second gravel pack section.

Claim 16 (original): The wellbore completion of claim 15, further comprising a sand screen having a plurality of flow restricting sections capable of imposing a predetermined flow restriction upon fluid production flowing substantially radially through the sand screen sections.

Claim 17 (original): The wellbore completion of claim 16, wherein each screen section comprises a flow restriction element capable of imposing a restriction on the communication of fluid flow, thereby regulating the pressure profile along the sand screen length.

Claim 18 (original): The wellbore completion of claim 16, wherein the sand screen is at least partially located within a horizontal wellbore having a heel end and a toe end.

Claim 19 (currently amended): A method for controlling production drainage rates within a wellbore completion, comprising:

placing a gravel pack within a well, the gravel pack comprising a first longitudinal gravel pack section and a second longitudinal gravel pack section, each of the gravel pack sections

being capable of production adapted to produce fluid therethrough and being capable of imposing different flow restrictions upon fluid production flowing substantially radially through the gravel pack sections.

Claim 20 (original): The method of claim 19, further comprising:
varying the density of a gravel pack longitudinally within a horizontal well.

Claim 21 (original): The method of claim 20, further comprising:
providing a sand screen that comprises a plurality of flow restricting sections capable of imposing a flow restriction upon fluid production flowing substantially radially through the sand screen sections.

Claim 22 (original): The method of claim 21, wherein the flow restriction sand screen sections comprise one or more from the group consisting of: sand packed sections within the screens, wire mesh within the screens, tortuous path elements within the screens and holes within a base pipe.

Claim 23 (currently amended): A method for restricting production drainage rates within a wellbore completion, comprising:
placing a gravel pack within a wellbore, the gravel pack comprising a first gravel pack section and a second gravel pack section, each of the gravel pack sections being capable of production adapted to produce fluid therethrough and having different gravel densities; and

varying a substantially radial flow restriction upon fluid production along the wellbore length within a generally horizontal well.

Claim 24 (original): The method of claim 23, further comprising:
providing a sand screen within the wellbore, wherein the sand screen comprises a plurality of sections capable of imposing flow restriction upon fluid flowing radially through the sand screen sections.

Claim 25 (previously presented): A method for restricting production drainage rates within a horizontal wellbore completion, comprising:

providing a sand screen having a plurality of flow restricting sections capable of imposing flow restrictions upon fluid flowing radially through the sand screen sections within the wellbore, wherein the flow restricting sections comprise one or more from the following group: sand packed sections within the screens, wire mesh within the screens, tortuous path elements within the screens and holes within a base pipe;

placing the sand screen within the wellbore, the sand screen defining an annulus area between the sand screen and the wellbore; and

placing a gravel pack within the sand screen/wellbore annulus, wherein the gravel pack comprises a first gravel pack section and a second gravel pack section being capable of production and being capable of imposing different flow restrictions upon production fluid flowing radially through the gravel pack sections.

Claim 26 (original): A method for completing a wellbore, comprising:

developing a simulation completion model for the well that provides a desired flow restriction per well length to provide substantially equal drainage rates within the well productive zone length; and

providing a completion system comprising a sand screen and a gravel pack, the system having generally the desired flow restriction per well length as determined by the simulation completion model.

Claim 27 (original): The method of claim 26, wherein the completion system comprises a sand screen and a gravel pack of varying densities along the wellbore length.

Claim 28 (original): The method of claim 26, wherein the completion system comprises a conventional gravel pack and a sand screen having one or more flow restricting elements chosen from the following group: sand packed sections within the screens, wire mesh within the screens, tortuous path elements within the screens and holes within a base pipe.

Claim 29 (original): The method of claim 26, wherein the completion system comprises flow restricting elements within the sand screen and a gravel pack of varying densities along the well length.